

FUEL CELL STACK MONITORING AND SYSTEM CONTROL

Abstract of the Invention

5 A control method for monitoring a fuel cell
stack in a fuel cell system in which the actual voltage
and actual current from the fuel cell stack are
monitored. A preestablished relationship between voltage
and current over the operating range of the fuel cell is
established. A variance value between the actual
measured voltage and the expected voltage magnitude for a
10 given actual measured current is calculated and compared
with a predetermined allowable variance. An output is
generated if the calculated variance value exceeds the
predetermined variance. The predetermined voltage-
current for the fuel cell is symbolized as a polarization
15 curve at given operating conditions of the fuel cell.
[Other polarization curves may be generated and used for
fuel cell stack monitoring based on different operating
pressures, temperatures, hydrogen quantities.]